

What is claimed is:

1. — A suction nozzle for a vacuum cleaner (1), said suction nozzle being connectable to a suction wand (3) and/or to a suction hose (4) of the vacuum cleaner;
the suction nozzle (2) having a nozzle part (2.1) which is provided with a suction mouth and is connectable to the suction wand (3) or to the suction hose (4) of the vacuum cleaner via a tubular connection part (2.2);
the suction nozzle including a dust sensor (11) which is disposed in the flow path of the vacuum cleaner and whose signals are analyzed by an electronic control device, and;
during operation, the control device controlling an indicating device (16, 9) which indicates the dust flow;
wherein the indicating elements (16) indicating the dust flow are disposed in a housing (7) or receiving chamber formed on the upper side of the tubular connection part (2.2); and
the dust sensor (11) is disposed in the dust air stream inside the upward portion of the connection part (2.2).
2. — The suction nozzle for a vacuum cleaner as recited in Claim 1,
wherein the dust sensor (11) is insertable underneath the housing (7) through an opening formed on the upper side of the connection part (2.2) and protrudes into the dust air stream near the upper wall area of the connection part (2.2).
3. — The suction nozzle for a vacuum cleaner as recited in Claim 2,
wherein the dust sensor (11) is a piezoelectric dust sensor which is mounted in a receiving element (12.1) of a holding device (12);
the holding device (12) is mounted on the upper side of the connection part (2.2);
the receiving element (12.1) can be inserted, together with the sensor, into the interior of the tubular member through an opening (20) on the upper side of the connection part (2.2); and
the dust sensor (11) protrudes at an angle into the suction air stream.
4. — The suction nozzle for a vacuum cleaner as recited in Claim 3,
wherein the dust sensor (11) is disposed in the dust air stream at an inclination angle (23) of preferably 25 to 50 degrees relative to the upper wall of the connection part (2.2).
5. — The suction nozzle for a vacuum cleaner as recited in one of Claims 1 to 4,

wherein the control device and the indicating elements (16) are mounted on a printed circuit board (14); and
the printed circuit board (14) is mounted on the upper side of the holding device (12).

6. — The suction nozzle for a vacuum cleaner as recited in Claim 5,
wherein the control device is battery-operated and activatable by a low-pressure switch (15);
the low-pressure switch (15) is also mounted on the printed circuit board (14);
a battery compartment (8) accommodating the batteries (13) is disposed in the housing (7)
below the holding device (12); and
the batteries are in communication with the control device via current-conducting elements.

7. — The suction nozzle for a vacuum cleaner as recited in Claim 6,
wherein the low-pressure switch (15) disposed above the printed circuit board (14) has an air
inlet port (15.1) which is in communication with the air stream inside the connection part
(2.2) via an opening (17); and
the air inlet port (15.1) is located in the wind shadow of the receiving element (12.1) of the
holding device (12) and of the dust sensor (11) mounted therein.

8. — The suction nozzle for a vacuum cleaner as recited in one of Claims 1 to 7,
wherein the housing (7) is provided with an upwardly directed viewing window (9) for the
dust flow indicator, the light signals of the indicating elements (16) being displayable to the
outside through said viewing window.

9. — The suction nozzle for a vacuum cleaner as recited in Claim 8,
wherein the indicating elements (16) are disposed on the printed circuit board (14) such that
they are spaced from viewing window (9) by a distance defined according to the light
radiation, so that when activating the LED's and suitably selecting the material for the
viewing window (9), a flat illumination is achieved for the viewing window.

10. — The suction nozzle for a vacuum cleaner as recited in Claim 9,
wherein a reflector (16) is mounted on the printed circuit board (14) behind indicating
elements (16), said reflector reflecting the light beams toward the viewing window (9).

11. — The suction nozzle for a vacuum cleaner as recited in one of Claims 1 to 10,

~~wherein on the side opposite the dust sensor (11), a closable opening (19) is provided in the lower wall of the connection part (2.2), said closable opening allowing the interior space and the dust sensor (11) to be accessed from the outside for cleaning purposes.~~

~~12. — The suction nozzle for a vacuum cleaner as recited in one of Claims 1 to 11, wherein the connection part has formed on its upper side snap-in locking and fastening elements (21, 22) at which are attachable an upper housing shell (7.1) forming the housing (7), and the holding device (12) for the dust sensor (11).~~

~~13. — The suction nozzle for a vacuum cleaner as recited in one of Claims 1 to 12, wherein a parking aid (18) is mounted on the lower side of the connection part (2.2).~~

~~14. — A connection part for the suction nozzle (2) of a vacuum cleaner (1), the connection part being designed with the features set forth in at least one of Claims 1 to 13, and the connection part being provided with connecting means at both of its ends, said connecting means allowing the connection part to be connected, on one side, to the connector member of a suction nozzle (2), and, on the other side, to the suction wand (3) or the suction hose (4) of a vacuum cleaner (1).~~